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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,049	01/07/2002	Katsu Tasaki	MAT-8202US	1956

7590 06/04/2004

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EXAMINER	
ALPHONSE, FRITZ	

ART UNIT	PAPER NUMBER
2675	9

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/041,049	TASAKI, KATSU	
	Examiner	Art Unit	
	Fritz Alphonse	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/08/03* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan (U.S. Pat. No. 5,926,168) in view of Milner (U.S. Pat. No. 4,862,152) or Sekiya (JP 03217926).

As to claim 1, Fan (fig. 5) shows a pointing device comprising: an indicator (i.e., pointing means 40) including a first transmitter (sonic transmitter 410) for transmitting a first signal (note the sonic wave generated by transmitter 410); a board (i.e., display means 20) including at least three first receivers (note the sonic receivers 440, 450 and 460, located at three corners of the board 20) for receiving said first signal (i.e., signal generated by 410); and operating means (computer or DSP) for calculating moving distances in two directions of a pointer on said board pointed by said indicator (col. 8, lines 1- 67).

Fan does not explicitly disclose the limitation "based on a varying signal level" in the third and fourth embodiment (starting from col. 7, line 35 to col. 8, line 67). However, Fan (col. 8, lines 45-68) teaches about detecting the arrival time of the same wave.

In addition, Sekiya and/or Milner disclose a system to provide detecting the Peak or signal level of the sonic signal. Also, note that the sonic wave is not always a definite pulse (e.g., see Sekiya fig. 2 or Milner figure 6A), which would also require the detection of peak signal levels.

Therefore, it would have been obvious to one skilled in the art, at the time the invention was made to use the varying signal level or peak value of the arriving sonic wave, as disclosed by Seika or Milner in order to filter out noise and to consistently detect the arriving time (see Milner col. 6, lines 1-8).

As to claim 2, Fan (fig. 5) shows a pointing device, wherein said indicator (i.e., pointing means 40) further includes a second transmitter (420) for transmitting a second signal (note the sonic wave generated by transmitter 420), wherein said board (20) further includes a second receiver (note the sonic receivers 440, 450 and 460, located at three corners of the board 20) for receiving the second signal (sonic wave generated by transmitter 420); and output means (i.e., pointer 40) for outputting a command signal (i.e., sonic wave) in response to second signal (sonic wave to receiver 450) received by the second receiver (col. 8, lines 1-31).

As to claim 3, Fan discloses a pointing device (fig. 5), wherein said second transmitter (420) transmits, as said second signal, third signals (note the sonic wave signals generated by transmitter 420) at a time interval changing in response to the command signal (i.e., sonic wave), and wherein said output means (i.e., pointer 40) outputs said command signal in response to the time interval of said third signals (see fig. 5; col. 8, lines 32-67).

As to claim 4, Fan discloses a pointing device comprising: a first transmitter (sonic transmitter 410) for transmitting a first signal; a board (i.e., display means 20) including a plurality of first receivers (note the sonic receivers 440, 450 and 460, located at three corners of the board 20) for receiving said first signal. Fan (fig. 5) teaches about a position calculator (i.e., computer or DSP) for calculating a horizontal component and a vertical component of a position

of said board corresponding to a location associated with said signal using output from said first receivers (col. 8, line 20-31, lines 41-).

Fan does not teach about varying the signal level. However, this limitation is clearly disclosed by Milner (col. 5, lines 63 through col. 6, line 7). See the motivation for the same reason as disclosed in claim 1.

As to claim 5, Fan discloses a pointing device comprising: a first transmitter (note the sonic transmitter 410) for transmitting a first signal; a board (note the display means 40) including a plurality of first receivers (440, 450 and 460) for receiving said first signal; and a position calculator for calculating at least two distinct directional components of a position of said board corresponding to a location associated with said signal using output from said first receivers (col. 8, line 20-31).

Fan does not teach about varying the signal level. However, this limitation is clearly disclosed by Milner (col. 5, lines 63 through col. 6, line 7). See the motivation for the same reasons as discussed in claim 1.

3. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan in view of Yamaguchi (U.S. Pat. No. 5,637,839).

As to claim 6, Fan (fig. 5) shows a pointing device comprising: an indicator (i.e., pointing means 40) including a first transmitter (sonic transmitter 410) for transmitting a first signal (note the sonic wave generated by transmitter 410); a board (i.e., display means 20) including at least three first receivers (note the sonic receivers 440, 450 and 460, located at three corners of the board 20) for receiving said first signal (i.e., signal generated by 410).

Fan teaches operating means (computer or DSP) for calculating moving distances in two directions of a pointer on the board pointed by an indicator (col. 8, lines 1- 67), but does not mention the calculating is based on a difference per a unit time of a signal level amount of a first signal received by the first receiver.

However, in the same field of endeavor, Yamaguchi (fig. 7) teaches about an ultrasonic coordinate input apparatus, wherein operating means for calculating moving distances is based on a difference per unit time of a signal level amount of a first signal received by the first receiver (col. 8, lines 20-45).

Therefore, it would have been obvious to one skilled in the art, at the time the invention was made to improve upon the ultrasonic coordinate input apparatus, as disclosed by Yamaguchi. Doing so would provide an ultrasonic coordinate input apparatus having better operability by measuring the difference in the receiving time of ultrasonic wave signal between receiving sensors (see Yamaguchi col. 3, lines 20-27).

As to claim 7, the claim differs from claim 6 by the additional limitation "peak value of a signal level". However, this limitation is disclosed by Yamaguchi (note in figure 11, col. 10, lines 61 through col.11 line 15, Yamaguchi teaches about measuring the difference in receiving time of rising edge (So to Sn corresponding to peak value of signal level) of the ultrasonic wave; also note in figure 14, col. 12, lines 26-27,Yamaguchi teaches about measurement of the ultrasonic wave by means of the peak hold circuit). See the motivation for the same reason as disclosed in claim 6.

Response to Arguments

4. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

In view of the amendment, the references of Milner, Sekiya and Yamaguchi have been added for new ground of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse whose telephone number is (703)-308-8534. The examiner can normally be reached on M-F, 8:30-6:00, Alt. Mondays off.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-306-0377.

Fritz Alphonse

Art Unit 2675

May 10, 2004

CHANH NGUYEN
PRIMARY EXAMINER